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500.38090X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: WATANABE et al.  
Serial No.: 09/462,796  
Filed: January 13, 2000  
For: SEMICONDUCTOR DEVICE, MOUNTING STRUCTURE  
THEREOF AND METHOD OF FABRICATION THEREOF  
Group: 2811  
Examiner: N. Parekh

#7/Election  
P. Patel  
5/18/01  
TECHNOLOGY CENTER 2800  
1011-7 2001

RESPONSE TO ELECTION OF SPECIES REQUIREMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

May 3, 2001

Sir:

In response to the Office Action dated April 3, 2001, applicants respectfully traverse the election of species requirement set forth therein.

Referring to page 2 of the election of species requirement, three species are identified as follows:

1. Embodiment I: Fig. 1-3;
2. Embodiment II: Fig. 4-6; and
3. Embodiment III: Fig. 9

Regarding this, applicants respectfully note that these three embodiments share many common features. In particular, comparing the embodiment of Fig. 1 with the embodiment of Fig. 4, it can be seen that both embodiments are directed to pyramidal bump electrodes 5 formed on pad electrodes 3 of a semiconductor chip with a protective film 4. As shown in Figs. 2 and 5 respectively, these pyramidal bump electrodes are bonded to wiring conductors 23 on a substrate 21. The primary distinction between the embodiment of Fig. 1 and that

of Fig. 4 is discussed on page 15, line 19 et seq. wherein it notes that a difference between these embodiments is that the pyramidal bump electrodes 5 in the first embodiment of Fig. 1 are joined to the pad electrodes 3 by way of an anisotropic conductive film 9 whereas, in the second embodiment of Fig. 4, an alloy 10 (for example, of gold and tin) is used for this same purpose. Although this does represent a distinction between these two embodiments, it is respectfully submitted that because of the many common features between these two embodiments, any search regarding either of these embodiments will be substantially coextensive. Beyond this, issues raised regarding these two embodiments will also, to a large extent, be coextensive. In short, the examination of these embodiments separately will result in many redundancies both in searching and issue consideration, amounting to lost time and money for both the USPTO and the applicants.

Similarly, the third embodiment of Fig. 9 is very closely related to the second embodiment, as discussed, for example, on page 24, beginning on line 11. As discussed there, for example:

"The production processes (a)-(f) shown in Fig. 9 in the third embodiment are the same as those (a)-(f) shown in Fig. 8 in the second embodiment."

Following this, it is stated on line 21:

"Thus, the pyramidal bump electrodes 5 of a quadrilateral pyramid shaped can be formed in the same way as in the second embodiment."

Thus, any examination of the third embodiment will also be substantially coextensive with a search of the second

embodiment. Similarly, a large number of similar issues are likely to be raised in the examination of either of these embodiments.

Regarding this, the Examiner's attention is directed to MPEP 803 which specifies:

"If the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to distinct or independent inventions." [underlining added for emphasis]

It is respectfully submitted that this is the situation here, given the close relationship between the three embodiments in question, as discussed above. Accordingly, it is respectfully requested that the Examiner reconsider this election requirement in light of the above comments, and MPEP 803, and, correspondingly, remove this election requirement.

Although the applicants believe that the election requirement should be removed for the reasons set forth above, in order to be fully responsive to the requirement, applicants elect Embodiment II (Figs. 4-6) and note that claims 3-5, 7, 10, 11, 14, 15, 18, 19, 21, 23-25, 28, 29, 32 and 33 are readable thereon.

If the Examiner believes that there are any other points which may be clarified or otherwise disposed of, either by telephone discussion or by personal interview, the Examiner is invited to contact applicants' undersigned attorney at the number indicated below.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any

shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (500.38090X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

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